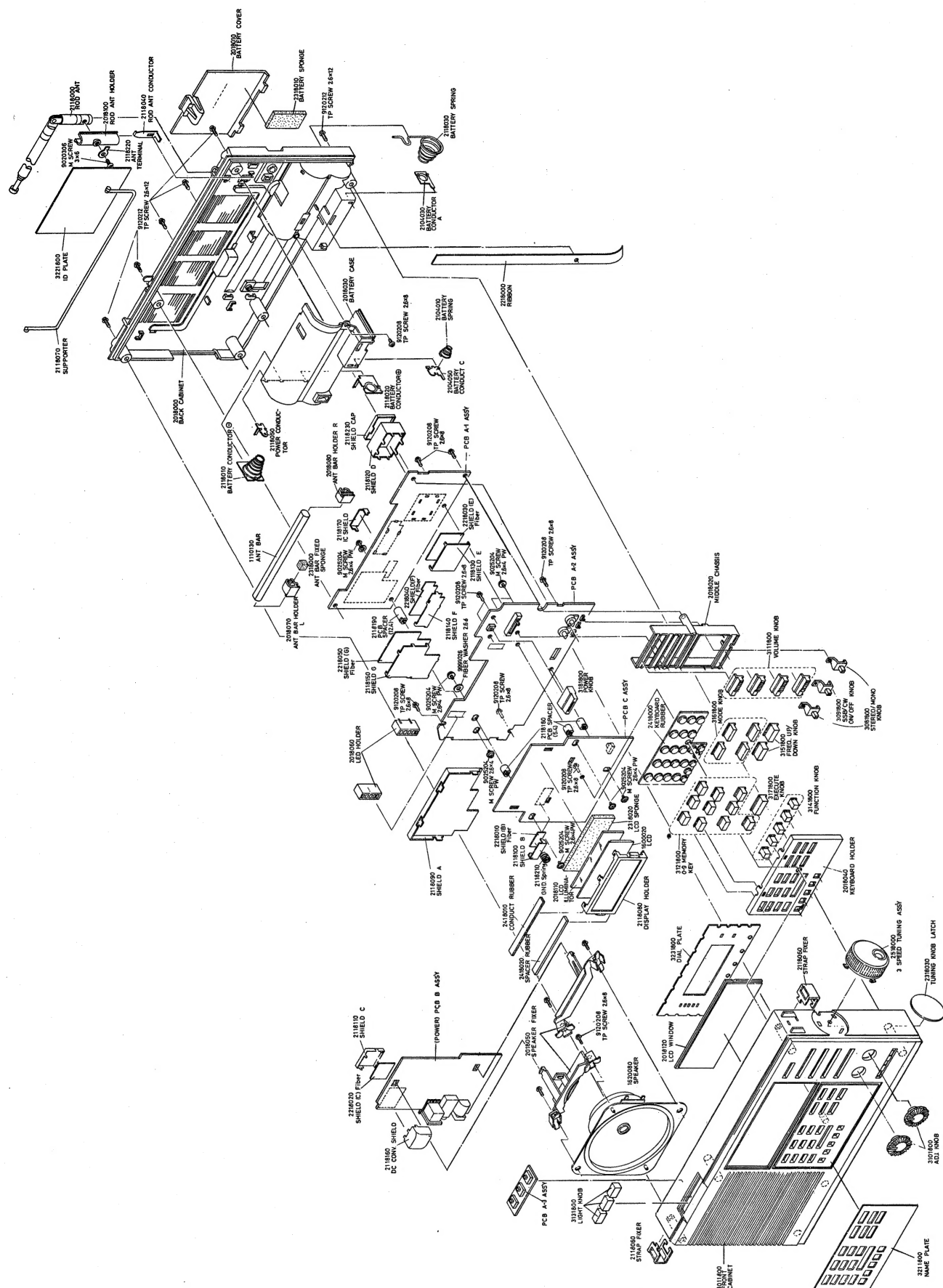
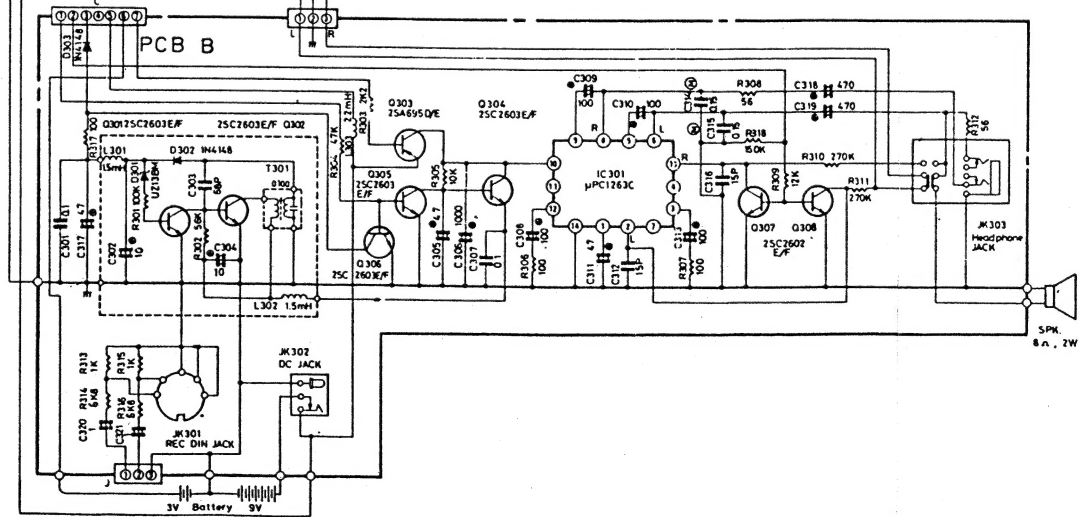
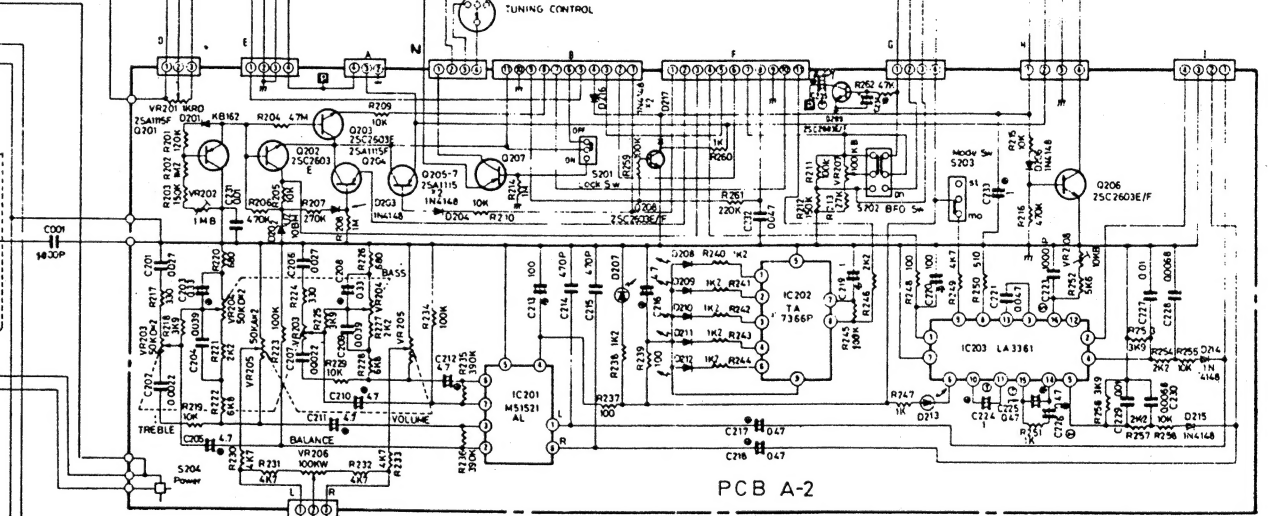
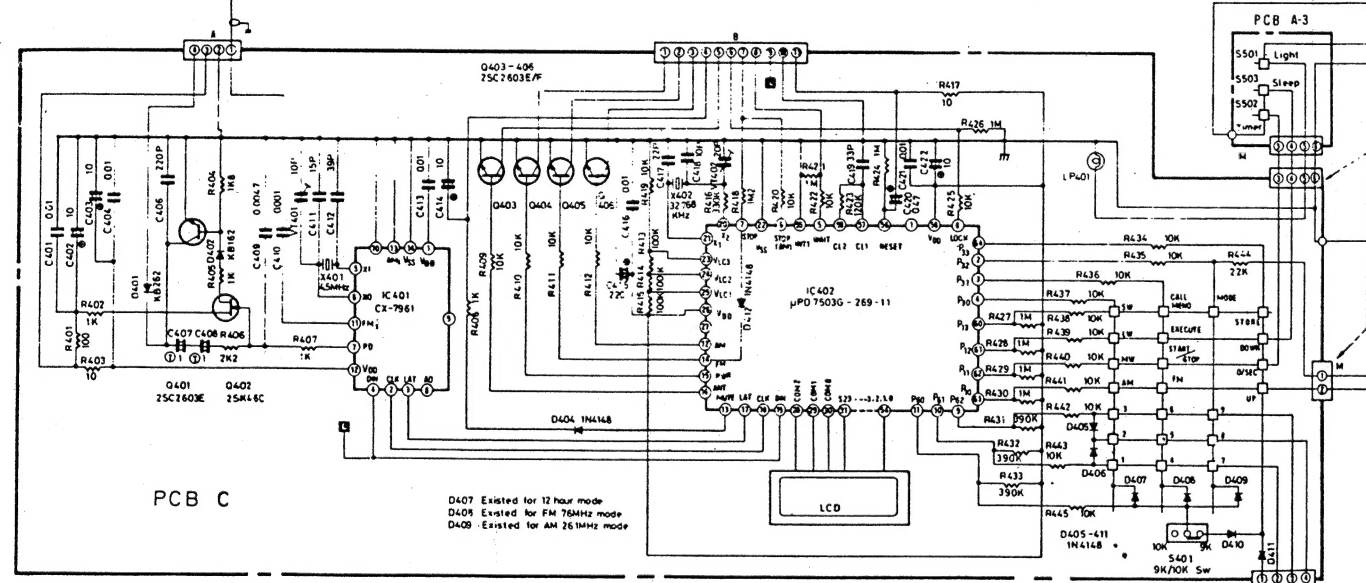
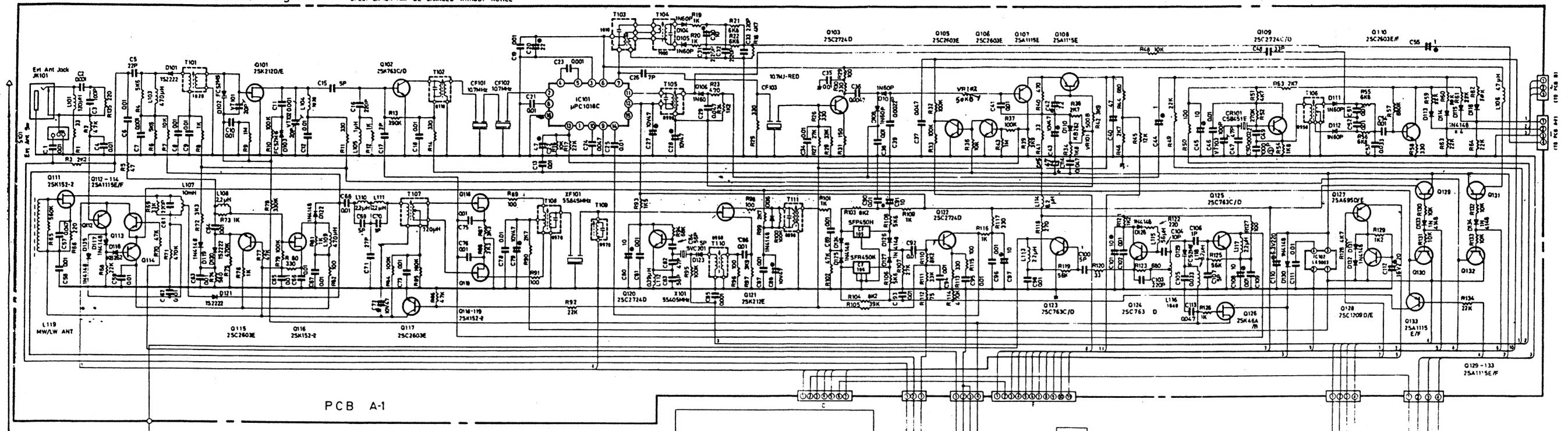




BESTELL-NR.	1270206
GERAETEBEZEICHNUNG	UNIV.-WELTEMPFAENGER
WARENGATTUNG	650
AUSFUEHRUNGS-NR.	001
GERAETEBESCHREIBUNG	PLL.15-BAND STEREO U.KH.
PRIVILEG	TR 3061
LIEFERANTEN-NR.	5949
PREIS	498.00
KATALOG	862
GARANTIEZEIT	6
KD-SEKTOR	R
HEIM/BRINGE	WERKSTATT
BETREUUNG	EIGEN
KOSTENTRAEGER	EIGEN
REPARATURFAEHIG	JA

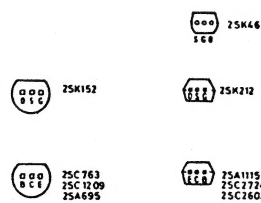




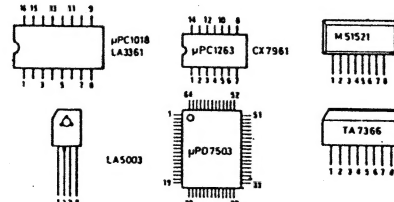
NOTES

Resistance in  $\Omega$ , K=10<sup>3</sup>, M=10<sup>6</sup>  
 Capacitance in  $\mu$ F, P=10<sup>-12</sup>  
 Mylar Capacitor  
 Polyester Capacitor  
 Electrolytic Capacitor  
 Tantalum Capacitor  
 Tubular Ceramic Capacitor  
 No mark - Ceramic Capacitor

BOTTOM VIEW



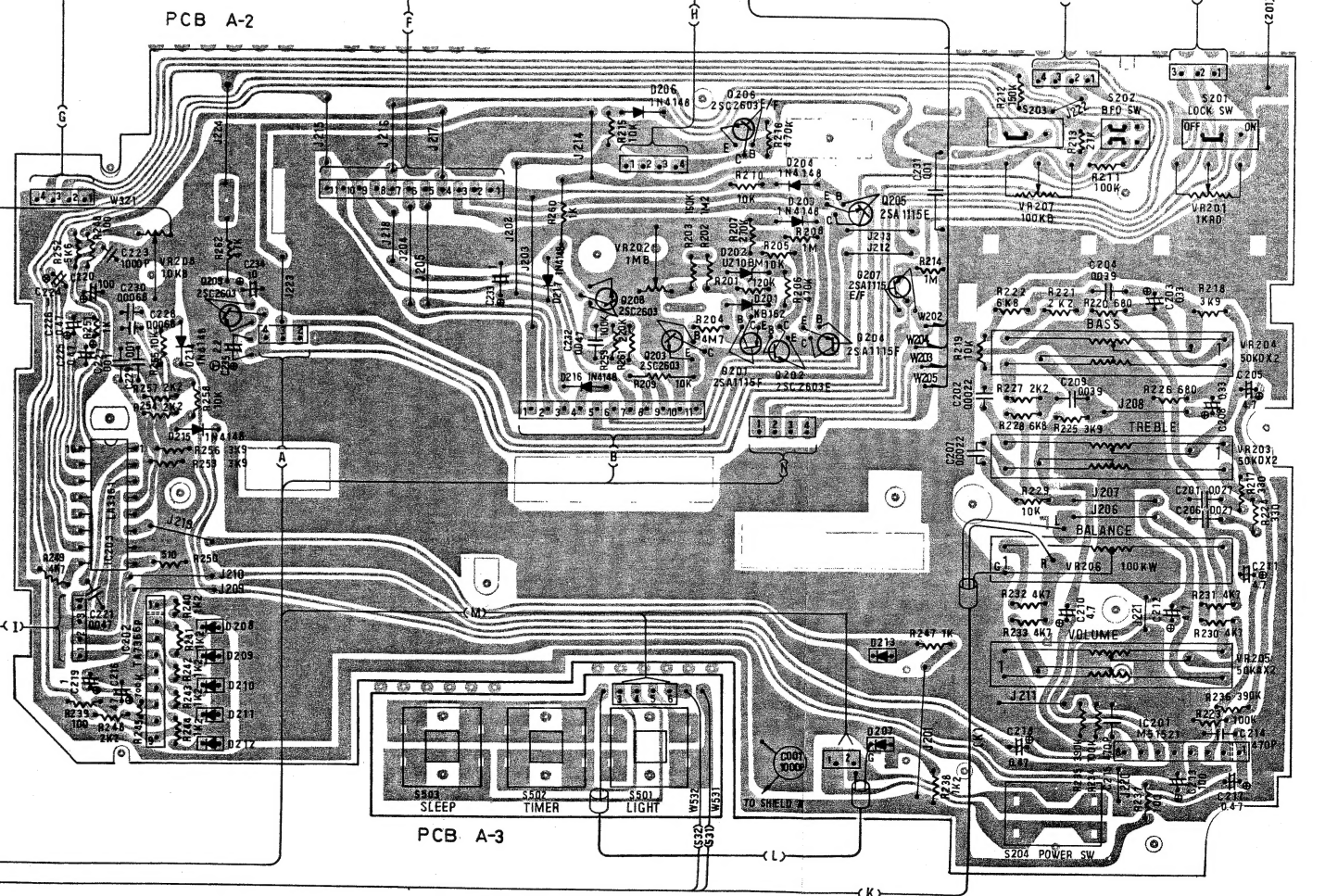
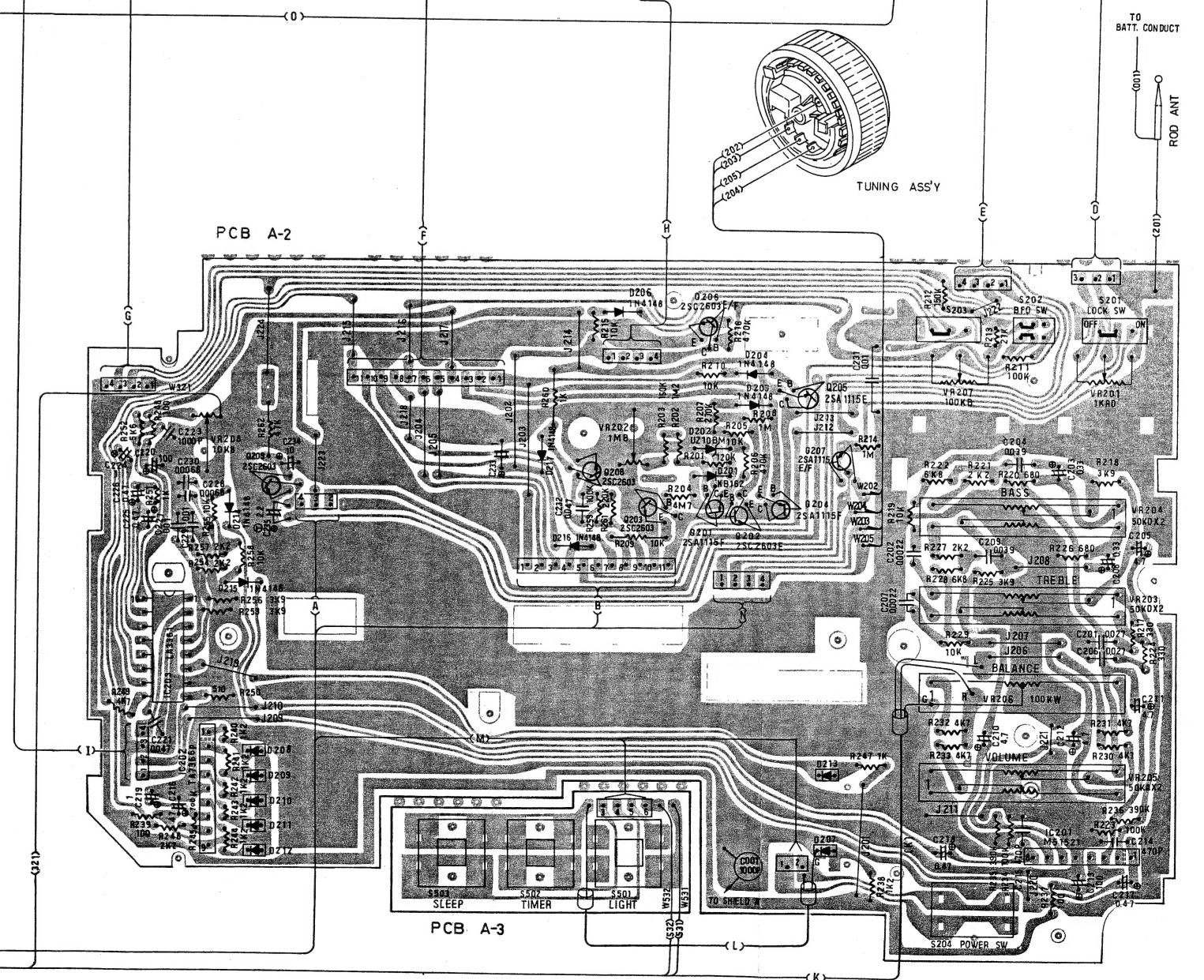
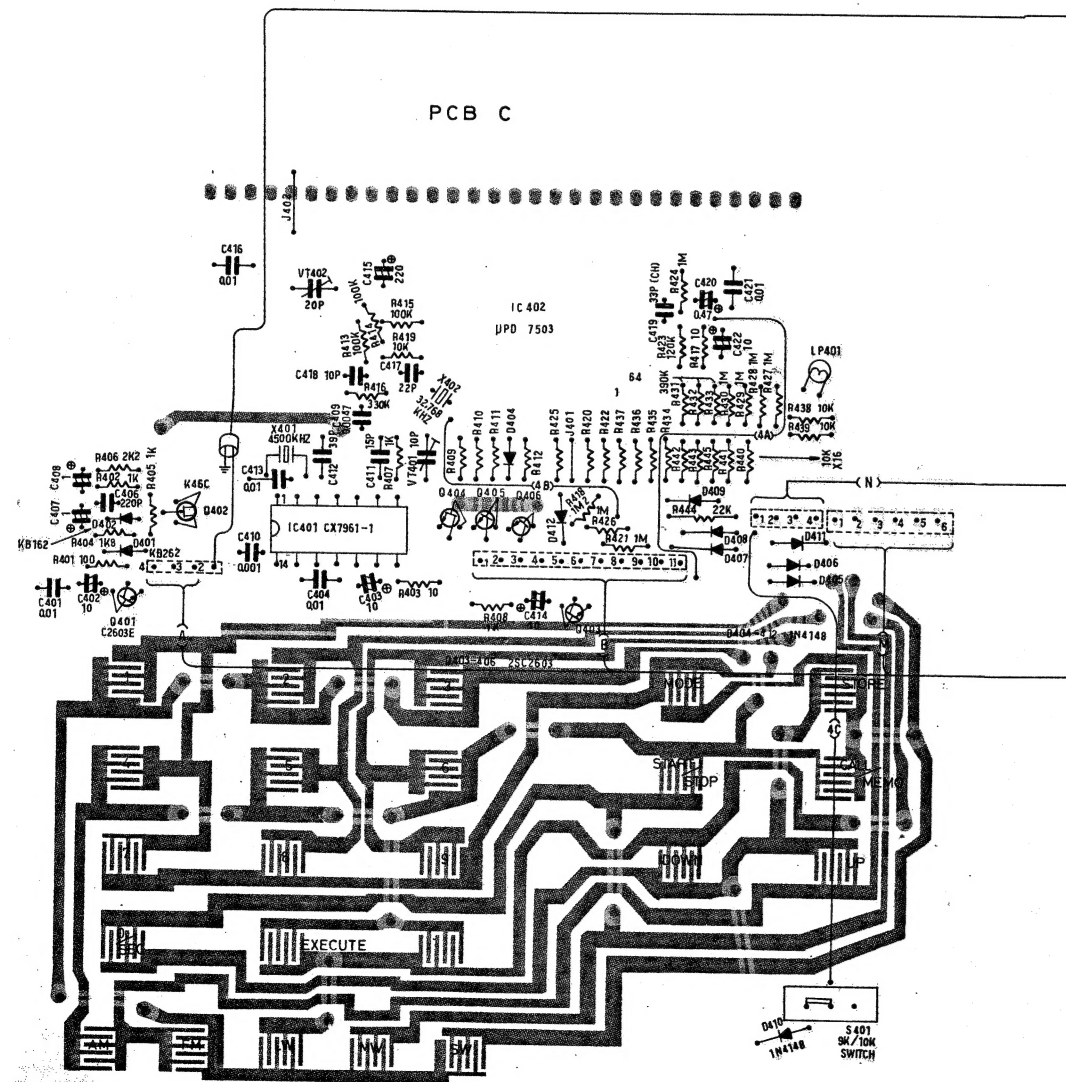
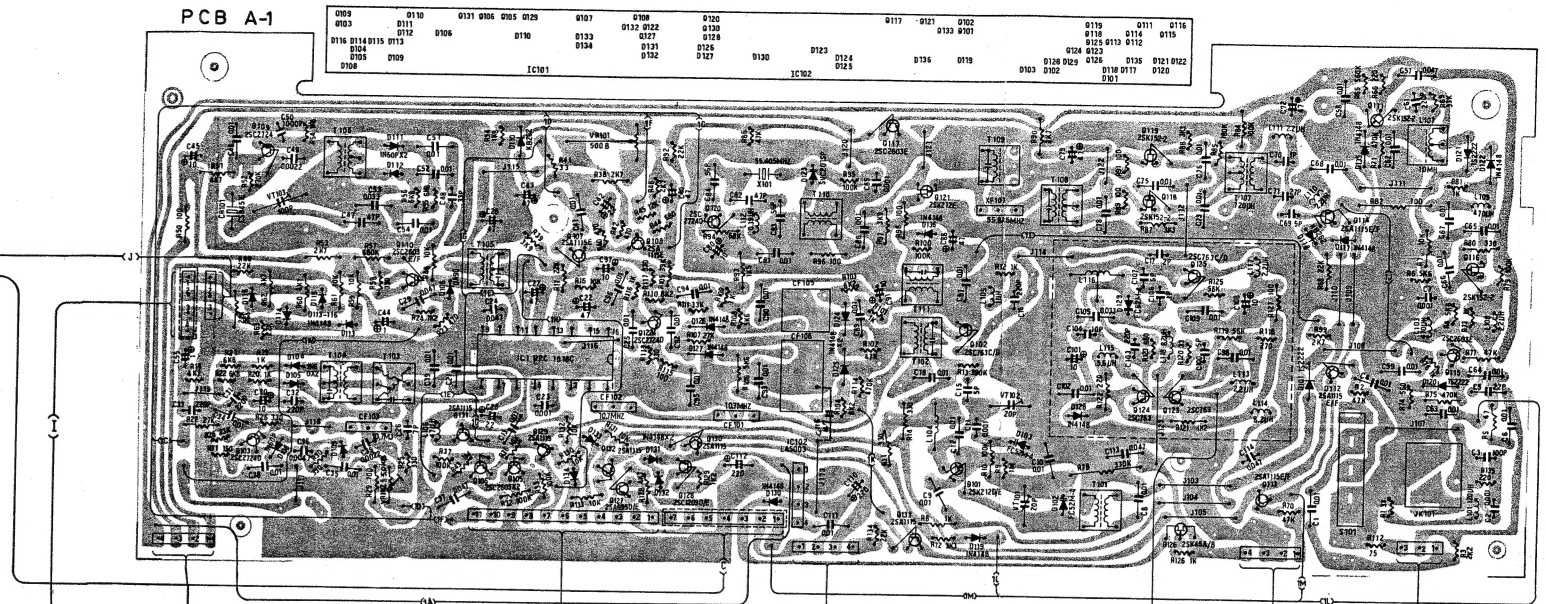
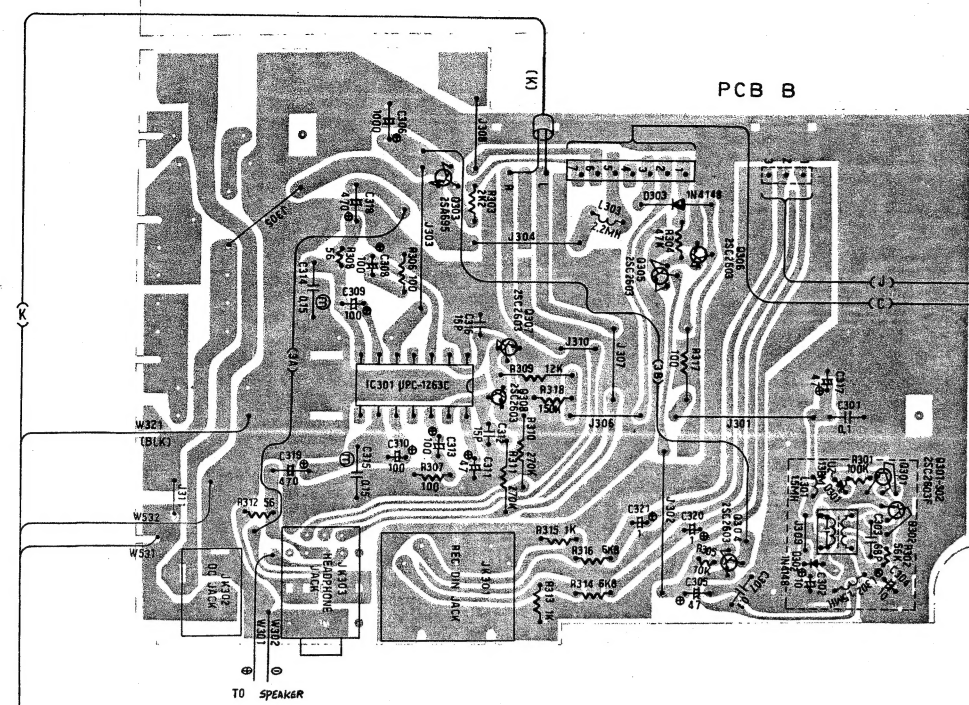
TOP VIEW



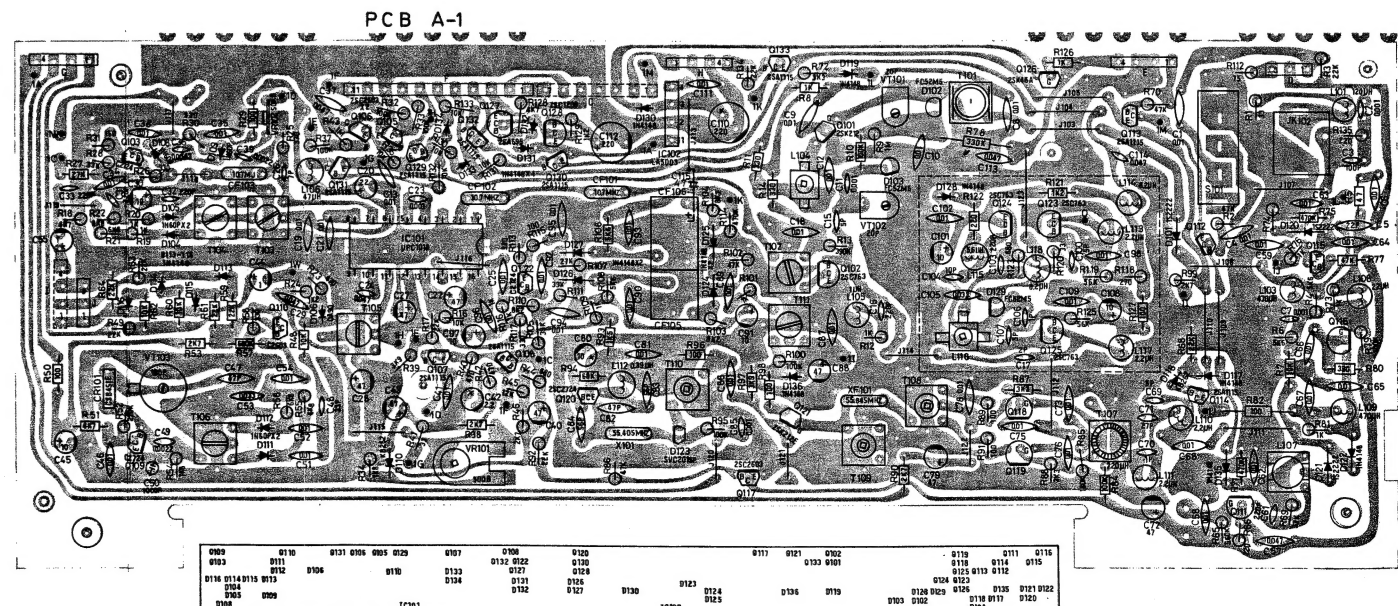
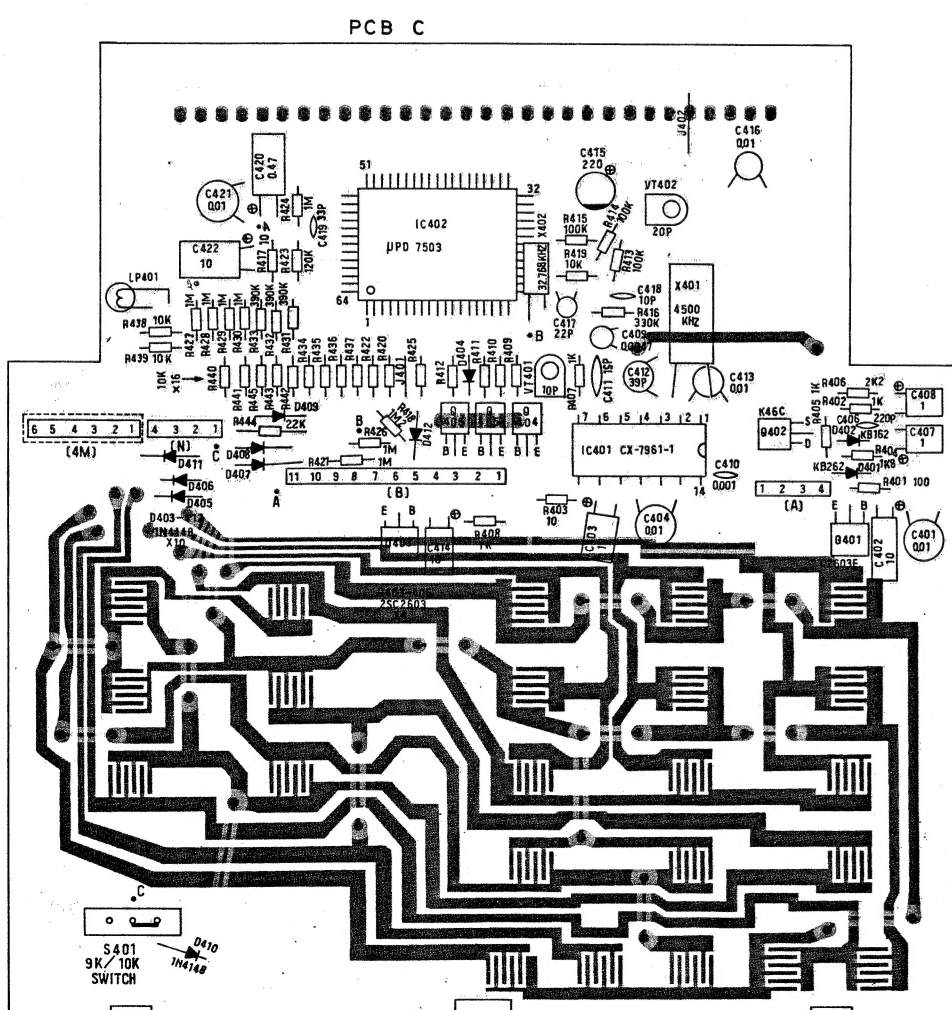
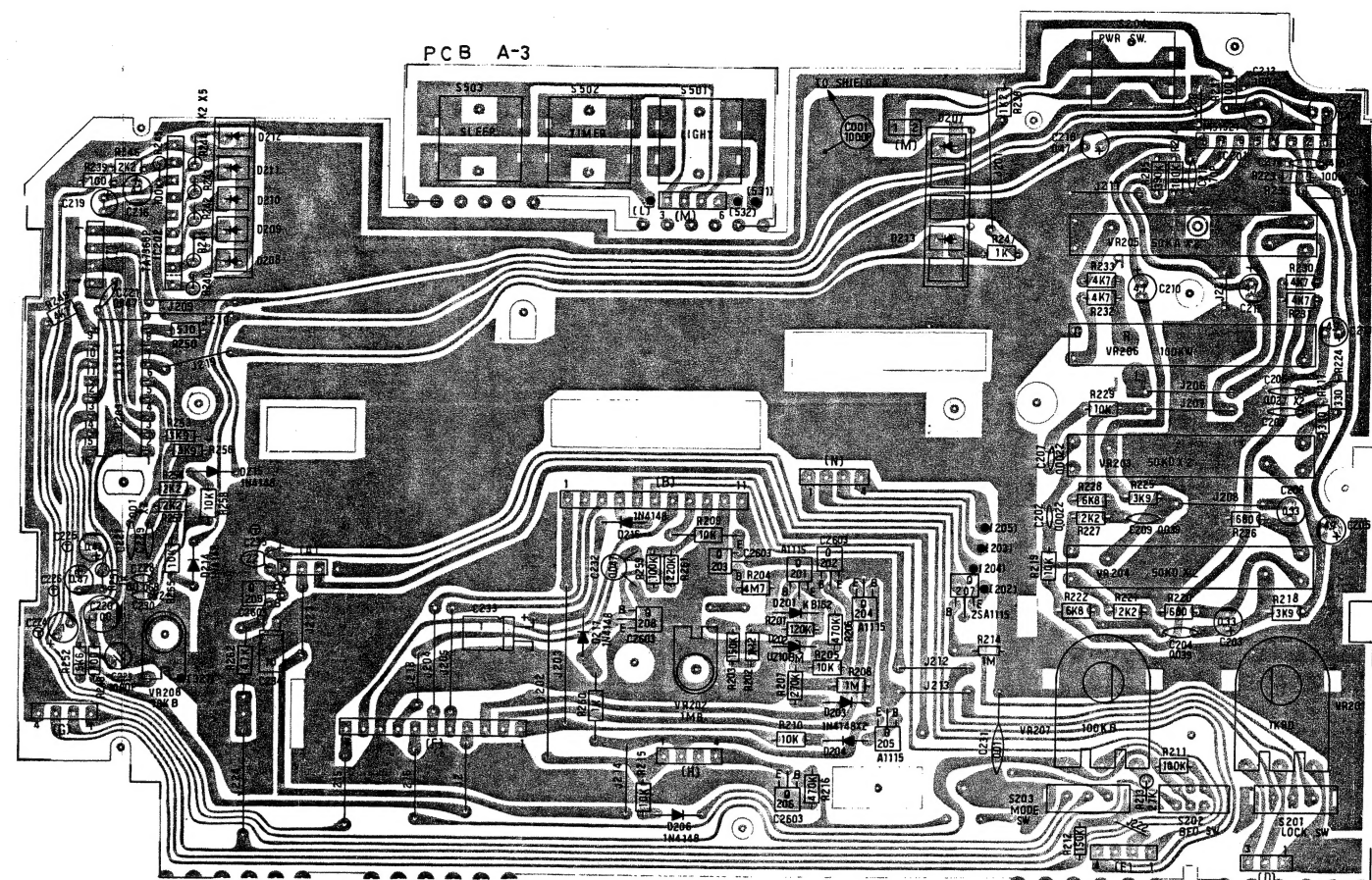
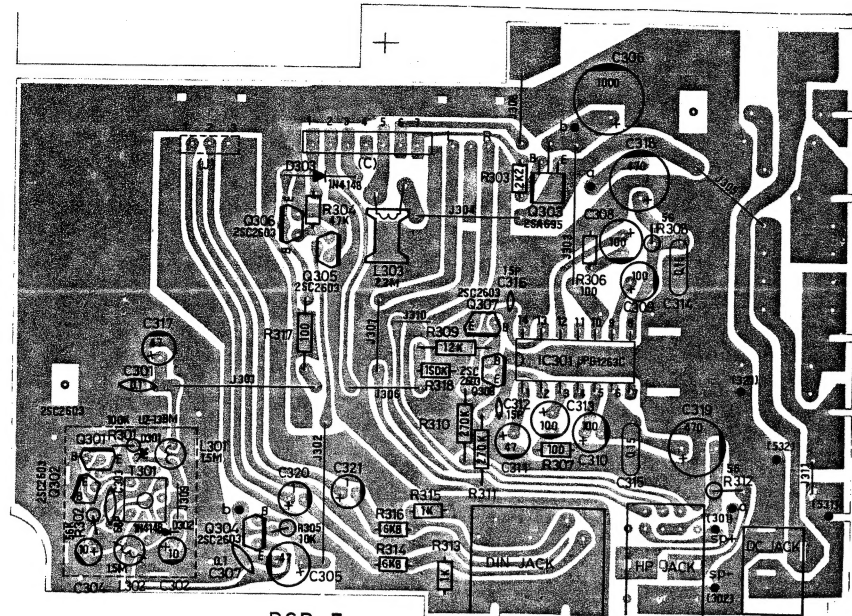
(PIN CONFIGURATION)

SIDE VIEW

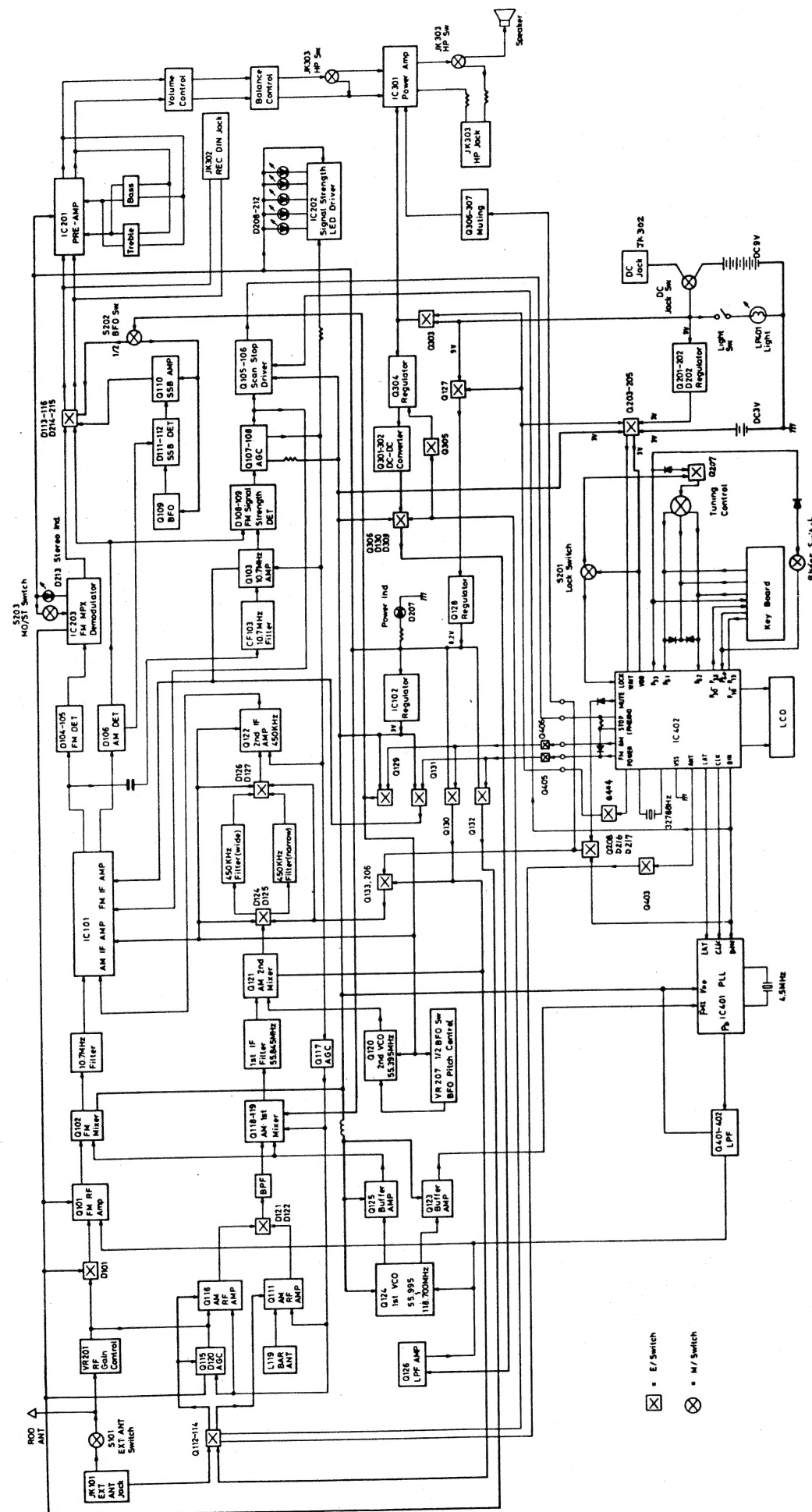








ATS-803 BLOCK DIAGRAM



\* CONDITION: Power "OFF."

\* INSTRUMENT CONNECTION:

\* ADJUST POINT & METHOD:

\* CONDITION: Power "OFF"

Diagram illustrating the connection between the SET (front side), a Sensor, and a Quartz Watch/Clock Analyzer (32.768KHz).

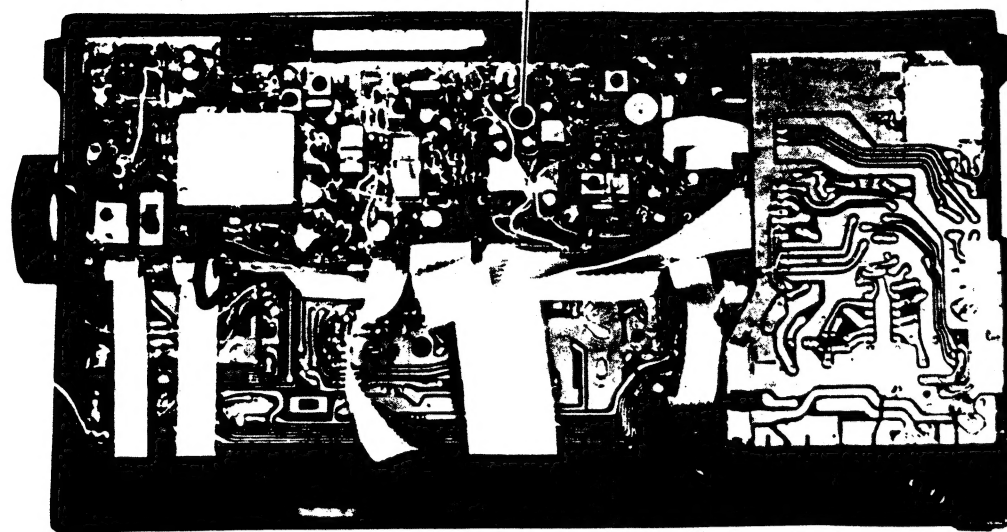
The SET (front side) is connected to the Sensor. The Sensor is connected to the Quartz Watch/Clock Analyzer (32.768KHz).



\* ADJUST POINT & METHOD:

Adjust VT402 for zero error ( $\pm 0$  ppm or  $\pm 0$  second/month) indicated on Quartz Watch/Clock Analyzer.

VT402(on PCB-C, thru PCB-A1 & shield plate of PCB-C)

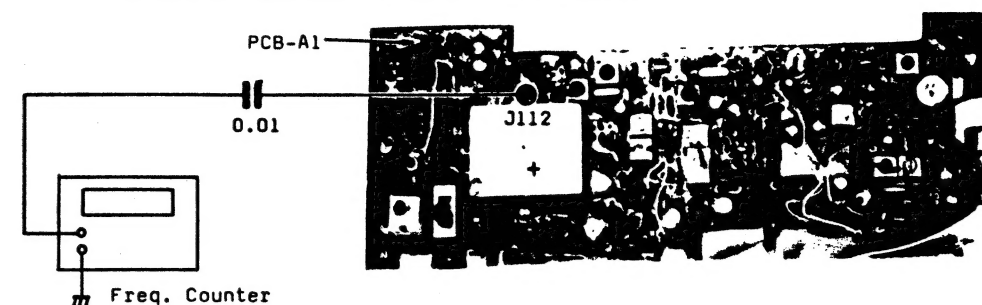


4. PLL FREQUENCY ALIGNMENT

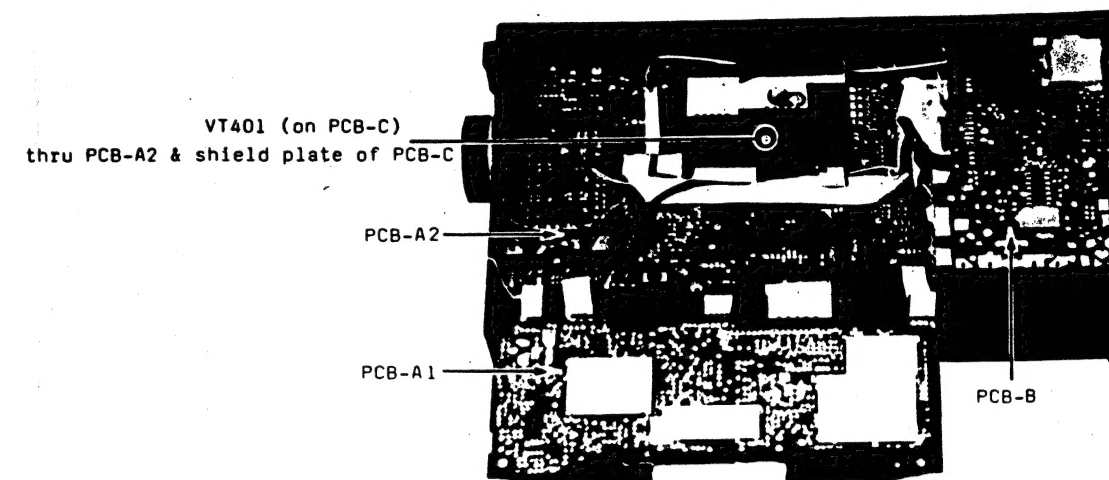
\* CONDITION: Power "ON" band "FM" FREQ. "108MHz"

\* INSTRUMENT CONNECTION:

Connect a freq. counter to J112 and ground.



\* ADJUST POINT & METHOD: Adjust VT401 for the counter reading is EXACT 118700KHz



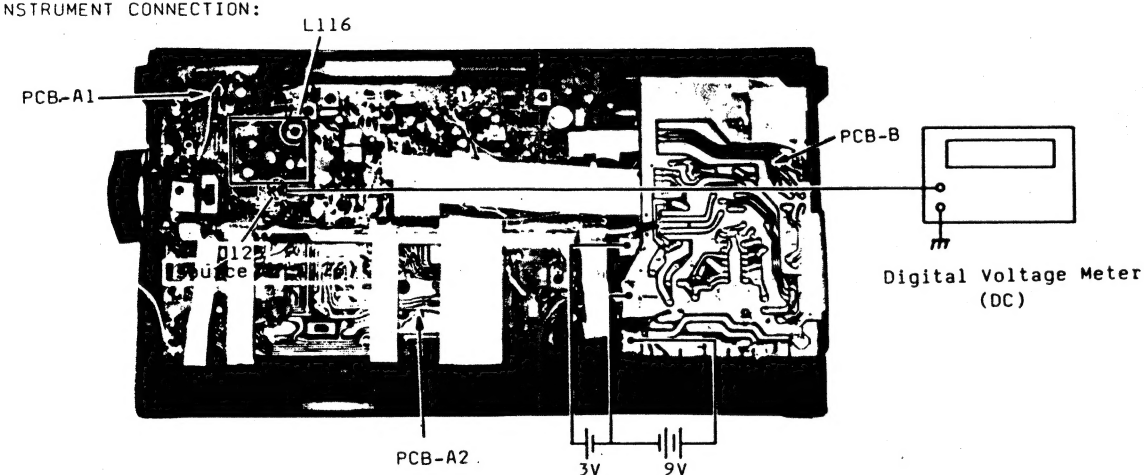
7. VCO1 VOLTAGE RANG ALIGNMENT

\* CONDITION: Power "ON"

FM band 108MHz

LW band 150KHz (BFO switch "OFF")

\* INSTRUMENT CONNECTION:



\* ADJUST POINT & METHOD:

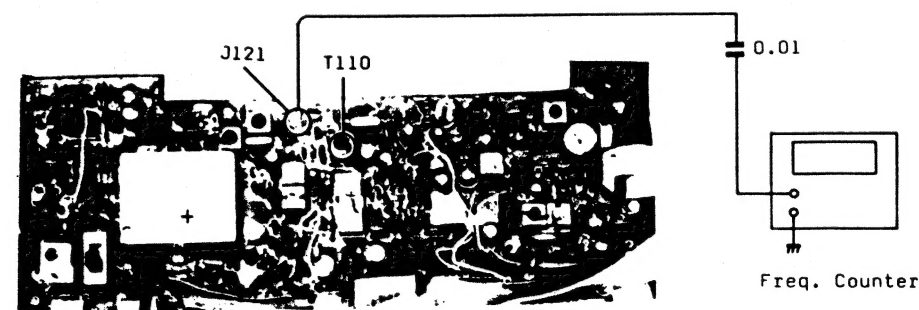
- Open the shield cover and set FM 108MHz, adjust L116 to the reading of meter to 9.2-10V DC
- Then set LW 150KHz to check the reading must be higher than 1.30V
- Re-cover the shield cover

5. AM 2nd LOCAL OSC ALIGNMENT

\* CONDITION: Power "ON"

band "AM" any freq. (BFO switch "OFF")

\* INSTRUMENT CONNECTION: Connect freq. counter to J121 and ground.



\* ADJUST POINT & METHOD: Adjust T110 for the counter reading is 55395KHz

CAUTION: Because the counter connected to J121 cause loading to the circuit, so, the reasonable adjust reading must be higher than 55395KHz. (You can adjust T110 for reading 55397KHz) and T110 must be carefully readjusted on the process will be mentioned later

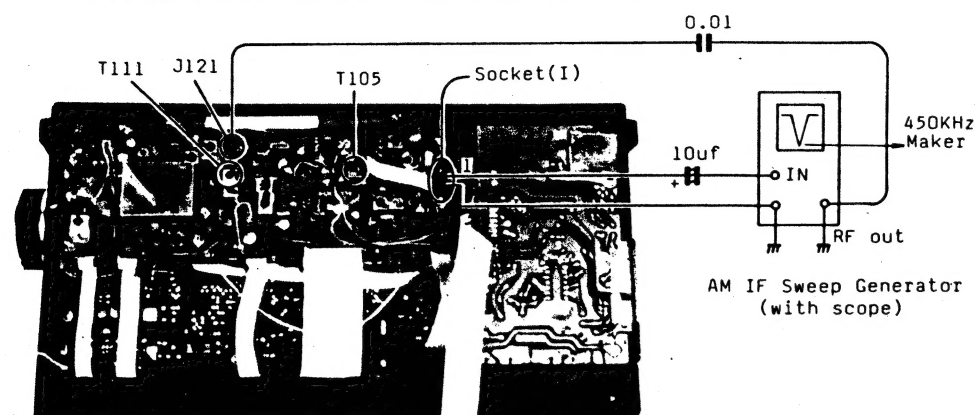


## 6. AM 2nd IF ALIGNMENT

\* CONDITION: Power "ON"

Tune band "AM" any freq. (BFO switch "OFF")

\* INSTRUMENT CONNECTION: AM IF sweep generator RF input to J121 terminal (1) of socket (I) connect to sweep scope input terminal



\* ADJUST POINT & METHOD:

- Adjust T111 for Max. 450KHz output
- Adjust T105 for Max. 450KHz output
- Repeat a & b until 450KHz output is Max.

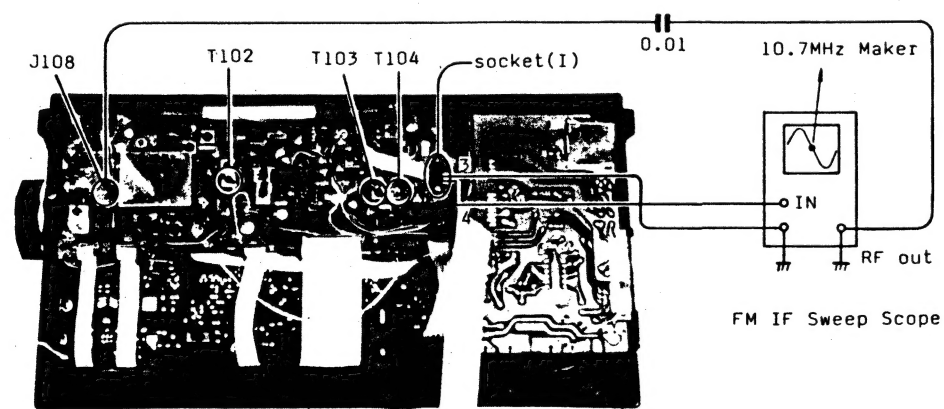
## 7. FM IF ALIGNMENT

\* CONDITION: Power "ON"

Band "FM" any freq.

\* INSTRUMENT CONNECTION:

FM IF Sweep Generator RF input to J108 terminal (4) of socket (I) connected to sweep scope input terminal



\* ADJUST POINT & METHOD:

Adjust T102, T103, T104 for Max. output and best symmetrical S curve

## 8. AM SENSITIVITY ALIGNMENT

\* CONDITION: Power "ON"

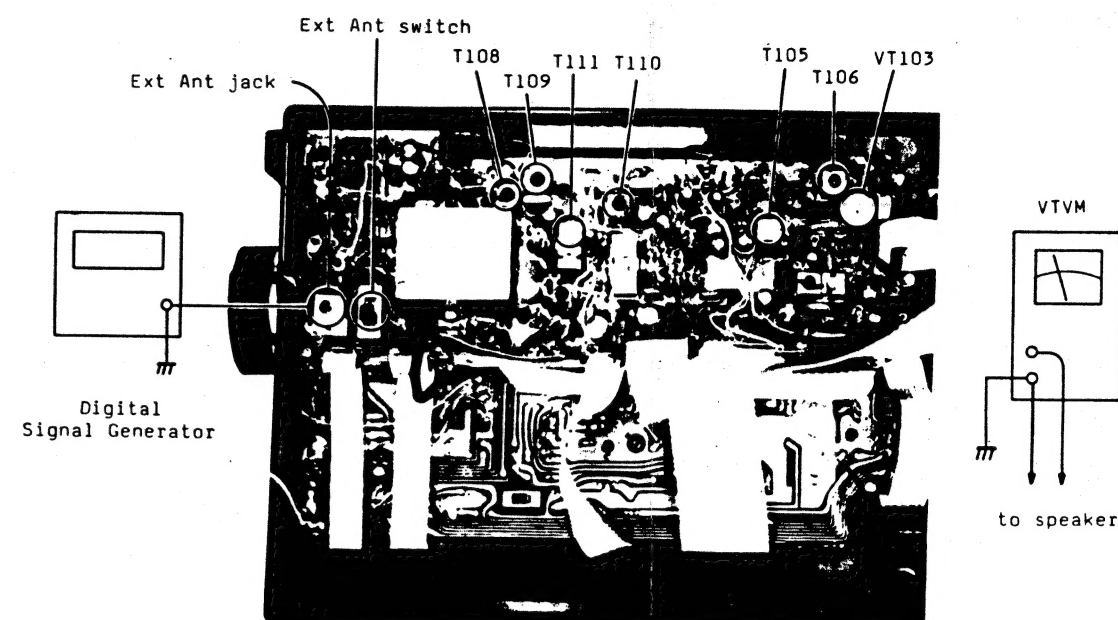
band "SW" any freq. BFO switch "OFF"

RF GAIN "MAX" 30%, 1KHz Mod. Ext Ant switch on "EXT" position

\* INSTRUMENT CONNECTION:

Signal generator output fed to Ext Ant jack.

VTVM connect to speaker



\* ADJUST POINT AND METHOD:

- Tune the radio and the signal generator to EXACT same freq.
- Adjust T108, T109 for Max. Audio output.
- Adjust T111, T105 for Max. Audio output.
- Carefully adjust T110 for Max. Audio output.
- Repeat a-d for Max. Audio output.
- Detune the signal generator +4KHz and -4KHz from the radio freq. to check the output difference, the difference should be within 3db, otherwise, adjust T110 slightly and recheck. Carefully adjust T110 to make them.
- For best performance, output are nearly the same value.

## 9. BFO ALIGNMENT

\* CONDITION: Power "ON"

band "SW" any freq. BFO switch "ON"

BFO pitch "Center" position

Signal Generator no modulation (carrier only)

\* INSTRUMENT CONNECTION:

Same as No. 8 (AM Sens. Alignment)

\* ADJUST POINT AND METHOD:

tune the radio and the Signal Generator to exact same freq.

- Tune the radio and the Signal Generator to exact same freq.
  - Adjust VT103 for zero best (Be sure the BFO pitch control be in the center position)
- See Fig. of No. 8

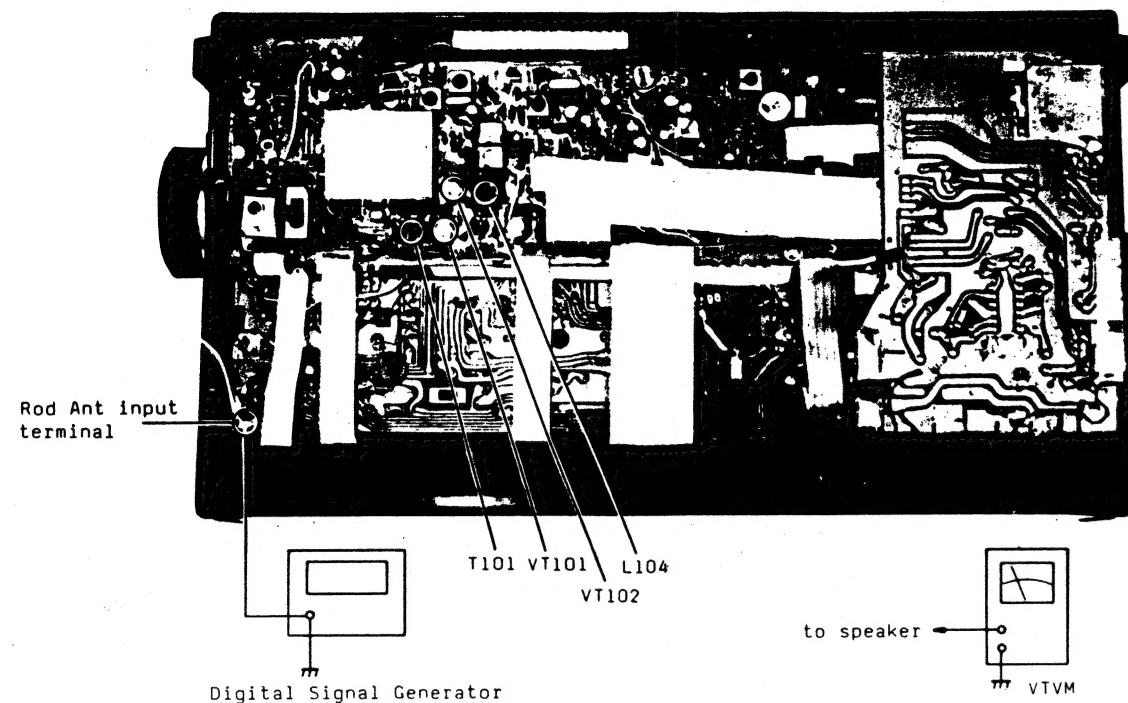
# 10. FM SENSITIVITY ALIGNMENT

## \* CONDITION: Power "ON"

band "FM" 90MHz, 106MHz. RF GAIN "MAX"  
22.5KHz Dev. 1KHz mod.

## \* INSTRUMENT CONNECTION:

Signal Generator output fed to the terminal where Rod Ant is connected.  
VTVM connect to speaker



## \* ADJUST POINT AND METHOD:

- Tune to 90MHz adjust L104, T101 for Max. output
- Tune to 106MHz adjust VT102, VT101 for Max. output
- Repeat a-b until get best sens. on these two freq.

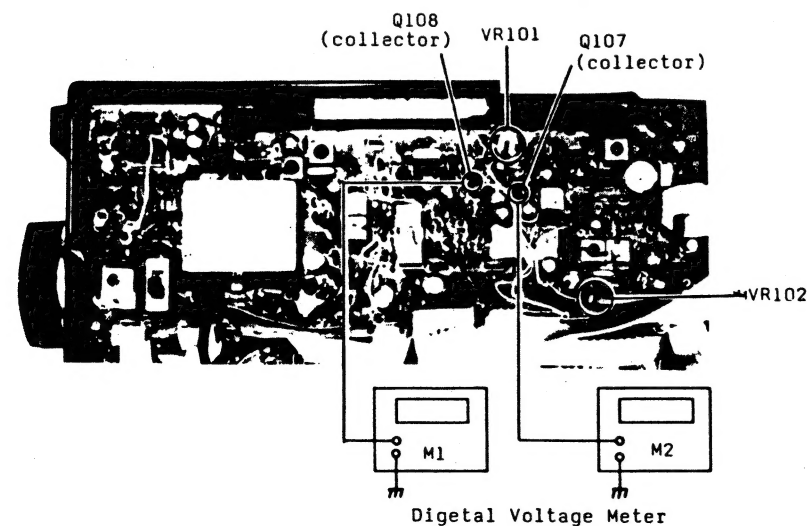
# 11. SIGNAL LEVEL & STOP LEVEL ALIGNMENT

## \* CONDITION: Power "ON"

band "AM" 26100KHz BFO switch "OFF"  
(be sure there is no signal fed in or recept by the radio)

## \* INSTRUMENT CONNECTION:

Connect a digital voltage meter M1 to the collector of Q108 and  
another digital voltage meter M2 to the collector of Q107



## \* ADJUST POINT AND METHOD:

- Adjust VR101 for M1 reading 1.95V.
- Adjust VR102 for M2 reading 0.5V
- Repeat a-b until the M1, M2 reading 1.95V and 0.5V

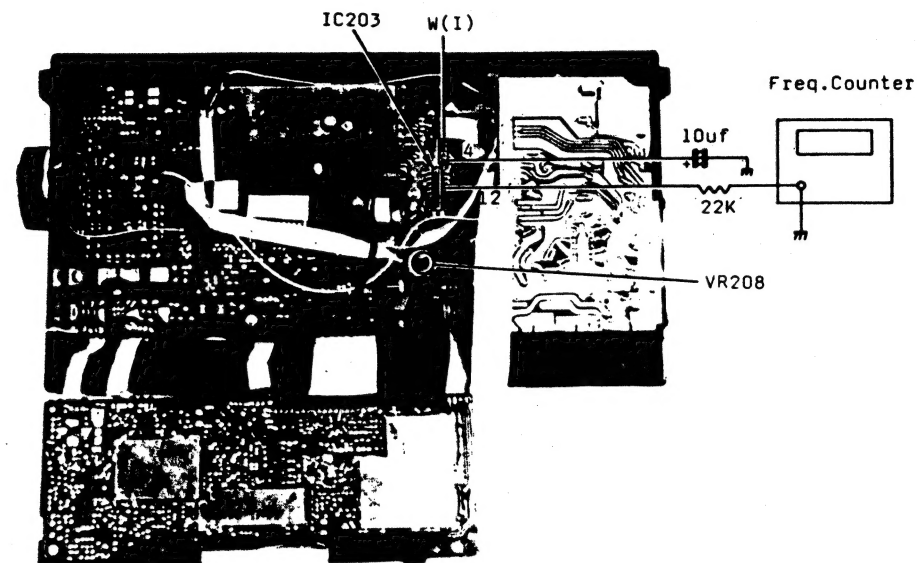
# 12. MPX ALIGNMENT

## \* CONDITION: Power "ON"

band "FM" any freq. FM mode switch on Stereo position

## \* INSTRUMENT CONNECTION:

By pass wire (4) of W(1) or Pin 2 of IC203 to ground with 10uf.  
connect a freq counter to pin 12 (series with 22K resistor) of IC203



## \* ADJUST POINT AND METHOD: Adjust VR208 for counter reading is 19KHz

ZEILE	POSITION	SYM BEZEICHNUNG	ET-NUMMER
1			
2	2018000	RUECKWAND	730 849 7
3	2018010	BATTERIEFACHDECKEL	730 850 5
4	2018020	PLASTIKRAHMEN	730 889 3
5	2018030	BATTERIEBEHAELTER	730 851 3
6	2018040	PLASTIKRAHMEN FUER KNOEPFE	730 852 1
7	2018050	PLASTIKHALTER FUER LAUTSPRECHER	730 853 9
8	2018060	PLASTIKHALTER, DIODEN	730 854 7
9	2018070	HALTER, LINKS	730 855 4
10	2018080	HALTER, RECHTS	730 856 2
11	2018100	HALTER, FUER TELESKOPANTENNE	730 857 0
12	2018110	REFLECTOR	730 858 8
13	2018120	KLARSICHTSCHEIBE	730 859 6
14	2104030	BATTERIEKONTAKT, PLUS	730 861 2
15	2104050	BATTERIEKONTAKT, MINUS	730 862 0
16	2118000	TELESKOPANTENNE	730 860 4
17	2118010	BATTERIEKONTAKT, MINUS	730 863 8
18	2118020	BATTERIEKONTAKT, PLUS	730 864 6
19	2118030	BATTERIEKONTAKT, PUS-MINUS	730 865 3
20	2118050	KONTAKTGEBER	730 866 1
21	2118060	HALTER FUER SCHULTERRIEMEN	730 867 9
22	2118070	METALLBUEGEL	730 868 7
23	2118080	HALTER FUER DISPLAY	730 869 5
24	2318030	ABDECKSCHEIBE	730 870 3
25	2418000	GUMMI-KONTAKTPLATTE	730 871 1
26	2518000	SENDERWAHLKNOPF KPL.	730 872 9
27	2518010	ANTENNENANSCHLUSSADAPTER	730 873 7
28	3011800	VORDETEIL	730 874 5
29	3081800	KNOFF STEREO-MONO	730 875 2
30	3091800	KNOFF, BFO, LOCK	730 876 0
31	3101800	KNOFF, BFO, RF GAIN	730 877 8
32	3111800	KNOFF, SCHIEBEREGLER	730 878 6
33	3121800	KNOFF, MEMORY 0-9	730 879 4
34	3131800	KNOFF, LIGTH, TIMER, SLEEP	730 880 2
35	3141800	KNOFF, BEREICH	730 881 0
36	3151800	KNOFF, UP, DOWN	730 882 8
37	3161800	KNOFF, MODE-CALL-MEMO	730 883 6
38	3171800	KNOFF, EXECUTE	730 884 4
39	3181800	KNOFF, POWER	730 885 1
40	3211800	ZIERPLATTE FUER KNOEPFE	730 886 9
41	3231800	ZIERPLATTE FUER DISPLAY	730 887 7
42		SCHULTERRIEMEN	730 888 5
43		NETZTEIL 9V	730 890 1
44			
45	CF101,102	KERAMIK-FILTER SFE 10.7 MA8-A	730 846 3
46	CF103	KERAMIK-FILTER SFE 10.7 MJ-A	730 847 1
47	CF105	KERAMIK-FILTER SFP 450H	730 844 8
48	CF106	KERAMIK-FILTER SFR 450K	730 845 5
49	CR101	KERAMIK-FILTER 451 KHZ	730 838 0
50	D101	DIODE 1S 2222	948 051 8
51	D102,103	CAP.-DIODE FC-52M-5	730 809 1
52	D104-109	DIODE OA 90	175 029 8
53	D110	DIODE KB 262	176 464 6
54	D111,112	DIODE OA 90	175 029 8
55	D113-117	DIODE 1 N 4148	175 540 4
56	D118,401	DIODE KB 262	176 464 6
57	D119	DIODE 1 N 4148	175 540 4
58	D120,121	DIODE 1S 2222	948 051 8
59	D122,124	DIODE 1 N 4148	175 540 4
60	D123	VARICAP DIODE SVC-201	924 760 2
61	D125-128	DIODE 1 N 4148	175 540 4
62	D129	CAP.-DIODE FC-52M-5	730 809 1
63	D130-136	DIODE 1 N 4148	175 540 4
64	D201,402	DIODE KB 162	920 794 5
65	D202	ZENERDIODE RD 10 EB 82	952 236 8
66	D203-206	DIODE 1 N 4148	175 540 4
67	D207-212	LEUCHTDIODE LN 210 RP	953 936 2
68	D213	LED LN 342 GP	986 698 9
69	D214-217	DIODE 1 N 4148	175 540 4
70	D301	ZENERDIODE RD 13 EB	959 478 9
71	D302,303	DIODE 1 N 4148	175 540 4
72	D404-412	DIODE 1 N 4148	175 540 4
73	IC101	IC UPC 1018 C	951 372 2
74	IC102	IC LA 5003	730 803 4
75	IC201	IC M 51521 L	951 176 7
76	IC202	IC TA 7366 P	730 804 2
77	IC203	IC LA 3361	952 038 8
78	IC301	IC UPC 1263 C	730 805 9
79	IC401	IC CX 7961-1	730 806 7
80	IC402	IC UPD 7503C-269-11	730 802 6
81	JK101	ANTENNEN-BUCHSE	730 837 2
82	JK301	DIN-BUCHSE	730 836 4
83	JK302	SPANNUNGS-BUCHSE	730 835 6



ZEILE	POSITION	SYM BEZEICHNUNG	ET-NUMMER
84	JK303	KOPFHOERER-BUCHSE	730 834 9
85	L104	FM-FILTER	730 821 6
86	L116	FM-FILTER	730 816 6
87	L119	FERRITANTENNE M.T SPULE	730 810 9
88	LP401	LAMPE,8V 50 MA	730 848 9
89	Q101	TRANSISTOR 2 SK 212 F	985 930 7
90	Q102	TRANSISTOR BF 200	175 901 8
91	Q103,109	TRANSISTOR 2 SC 2724 C-D	730 807 5
92	Q105,106	TRANSISTOR 2 SC 2603 F	965 943 4
93	Q107,108	TRANSISTOR 2 SA 1115 F	965 942 6
94	Q110	TRANSISTOR 2 SC 2603 F	965 943 4
95	Q111,116	TRANSISTOR 2 SK 152	965 919 4
96	Q112-114	TRANSISTOR 2 SA 1115 F	965 942 6
97	Q115,117	TRANSISTOR 2 SC 2603 F	965 943 4
98	Q118,119	TRANSISTOR 2 SK 152	965 919 4
99	Q120,122	TRANSISTOR 2 SC 2724 C-D	730 807 5
100	Q121	TRANSISTOR 2 SK 212 F	985 930 7
101	Q123-125	TRANSISTOR BF 200	175 901 8
102	Q126,402	TRANSISTOR 2 SK 46 C	730 808 3
103	Q127,303	TRANSISTOR BC 636-16	952 194 9
104	Q128	TRANSISTOR 2 SC 1209 D	924 997 0
105	Q129-133	TRANSISTOR 2 SA 1115 F	965 942 6
106	Q201,204	TRANSISTOR 2 SA 1115 F	965 942 6
107	Q202,203	TRANSISTOR 2 SC 2603 F	965 943 4
108	Q205,207	TRANSISTOR 2 SA 1115 F	965 942 6
109	Q206	TRANSISTOR 2 SC 2603 F	965 943 4
110	Q208,209	TRANSISTOR 2 SC 2603 F	965 943 4
111	Q301-308	TRANSISTOR 2 SC 2603 F	965 943 4
112	Q401-406	TRANSISTOR 2 SC 2603 F	965 943 4
113	S101	SCHIEBESCHALTER	730 833 1
114	S201,203	SCHIEBESCHALTER	730 831 5
115	S202	SCHIEBESCHALTER	730 832 3
116	S204	TIPSCHALTER	730 830 7
117	S401	SCHIEBESCHALTER	730 831 5
118	S501-503	TIPSCHALTER	730 830 7
119	T101	FM-FILTER	730 820 8
120	T102	FM-ZF-FILTER	730 819 0
121	T103	FM-ZF-FILTER	730 815 8
122	T104	FM-ZF-FILTER	730 814 1
123	T105	AM-ZF-FILTER	730 813 3
124	T106	SSB-FILTER	730 822 4
125	T107	BPF-FILTER	730 823 2
126	T108,109	AM-ZF-FILTER	730 812 5
127	T110	FILTER,55395 KHZ	730 811 7
128	T111	AM-ZF-FILTER	730 817 4
129	T301	DC-FILTER	730 818 2
130	VR201	DREHPOTI 1K	730 828 1
131	VR203,204	SCHIEBEREGLER 2X50 KD	730 825 7
132	VR205	SCHIEBEREGLER 2X50 KA	730 824 0
133	VR206	SCHIEBEREGLER 100 KW	730 826 5
134	VR207	DREHPOTI 100 K	730 827 3
135	X101	QUARZ 55.405 MHZ	730 842 2
136	X401	QUARZ 4500 KHZ	730 841 4
137	X402	QUARZ 32.768 KHZ	730 839 8
138	XF101	FILTER,55.845 MHZ	730 840 6

ENDE